

REMARKS

A check for \$55 for a one-month extension of time accompanies this response. Any fees that may be due in connection with the filing of this paper or with this application may be charged to Deposit Account No. 06-1050. If a Petition for Extension of time is needed, this paper is to be considered such Petition. A change of address for the undersigned accompanies this response.

Claims 1-14, 16 -20, 34-36, 40-46, 48-57, 57, 72-75, 91, 108-109, 113-116, 118-120 and 122-129 are pending in the instant application. Claims to non-elected subject matter have been retained in view of the traversal of the Restriction Requirement and to retain claims for subsequent rejoinder. Claims 40-46, 48-57, 72-75, 91, 108-109, 113-116, 118-120 and 122-129 are amended herein in accord with the Examiner's renumbering in the instant Office Action to correct for an inadvertent duplication of claim number 36. All claim numbers referred to herein refer to this renumbered set of claims. Claims 41, 42, 44-40, 52-55, 57, 74, 75, 109, 114-116, 118-120, 122-126, 128, and 129 are amended herein to correct claim dependencies with respect to the claim renumbering.

Claim 34 is amended herein to correct an inadvertent misspelling and word duplication in the claim. Claim 45 is amended to refer to "test compounds" for proper antecedent basis with claim 43. Claim 57 is amended herein to correct an inadvertent typographical error to properly depend on claim 56. Claim 73 is amended to depend from claim 72. Basis for this amendment can be found, for example, at page 16, lines 27-31. Claim 108 is amended herein for clarity and proper antecedent basis. Claim 109 is amended herein to correct an inadvertent typographical error in the claim dependency and to provide proper antecedent basis for "the conjugate." Claims 113, 115 and 122 are amended for clarity and proper antecedent basis. Claim 123 is amended to correct an inadvertent typographical error.

Claims 15, 21-33, 37-39, 47, 58-71, 76-90, 92-107, 110-112, 121 and 130-136 are cancelled without prejudice or disclaimer. Applicant reserves the right to file divisional and continuation applications to the cancelled subject matter.

TRAVERSAL OF RESTRICTION REQUIREMENT

Applicant traverses the Requirement for Restriction for the following reasons. Applicant respectfully submits that the requirement as drafted incorrectly requires the restriction of the claims to one MTSP protein or DNA molecule. The Examiner states that

this requirement is not an election of species for search purposes, but rather, each of the protein and DNA molecules are independent chemical entities and require independent searches in the patent and non-patent literature.

Linking claims

Applicant respectfully submits that claim 1 of group I is a generic claim that includes the molecules set forth in the Requirement. If the Requirement for Restriction is maintained in its present form, there is no opportunity to obtain generic coverage, and the claims will be unduly limited.

Claim 1 is a linking claim, related to additional claims within Group I as genus/species. Claim 1 is directed to a substantially purified single chain polypeptide comprising the protease domain of a type-II membrane-type serine protease (MTSP) or a catalytically active portion thereof, where the MTSP portion of the protein consists essentially of the protease domain of the MTSP or a catalytically active portion thereof. Claims dependent on claim 1 further specify species of MTSP polypeptides and compositions containing such polypeptides. For example, claim 11 is directed to the substantially purified polypeptide of claim 1, wherein the MTSP is selected from among MTSP1, MTSP3, MTSP4 and MTSP6. Thus, claim 1 is a genus of polypeptides where the MTSP portion of the protein consists essentially of the protease domain of the MTSP or a catalytically active portion thereof and claim 11 is directed to species of such polypeptides where the MTSP polypeptide is selected from among MTSP1, MTSP3, MTSP4 and MTSP6. Thus, claim 1 and claim 11 are related as genus/species.

Genus claims linking species claims are one example of linking claims. Pursuant to MPEP §809, when claims linking two or more claimed species are found, the Restriction Requirement must be conditioned on:

- 1) specifying the linking claims; and
- 2) examining the linking claims with the elected group.

If the linking claims are deemed allowable, then the restriction requirement must be withdrawn and all claims directed to non-elected subject matter that depends from or includes all the limitations of the linking claims must be rejoined.

In this case, Group I includes a genus claim, claim 1, linking species of MTSP polypeptides as set forth in additional claims of Group I. Therefore, claim 1 is a linking claim and it should be examined with the elected molecule.

Additionally, Applicant further submits that claims 2-10, 16-20, 35, 36, and 40-42 of Group I also are genus claims with respect to the elected molecule and therefore these claims also are linking claims. Claims 2-10, 16-20, 35, 36, and 40-42 depend from claim 1. These claims are directed to particular features of the polypeptides of claim 1. For example, claim 2 is directed to the substantially purified polypeptide of claim 1, wherein the MTSP is not expressed on normal endothelial cells *in vivo*. Thus, claim 2 is not directed to a particular MTSP protein, but specifies a feature of any of the MTSP polypeptides of claim 1. Hence, claim 2 is also a genus claim with respect to the elected species. Claims 3-10, 16-20, 35, 36, and 40-42 similarly, are not directed to a particular MTSP protein, but to specific features of any of the MTSP polypeptides of claim 1. Hence, these claims also are genus claims with respect to the elected species. Therefore claims 2-10, 16-20, 35, 36, and 40-42 should be examined with the elected molecule.

Restrictions to Single Protein Sequences

In addition, Applicant respectfully submits that although MTSP polypeptide molecules are independent chemical entities, the Requirement for Restriction is not consistent with the rules set forth in the MPEP for biotechnology. According to MPEP §803.04, although claims drawn to nucleotide sequences encoding different proteins are deemed properly restrictable, the Commissioner has decided *sua sponte* to partially waive this requirement for a reasonable number (usually, ten) of patentably distinct sequences. MPEP §803.04 states:

Nevertheless, to further aid the biotechnology industry in protecting its intellectual property without creating an undue burden on the Office, the Commissioner has decided *sua sponte* to partially waive the requirements of 37 CFR 1.141 *et seq.* and permit a reasonable number of such nucleotide sequences to be claimed in a single application....Accordingly, in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction. In addition to the specifically selected sequences, those sequences which are patently indistinct from the selected sequences will also be examined.

The instant claims are directed to MTSP polypeptides. For example, independent claim 1 is directed to a single chain polypeptides comprising the protease domain of an MTSP or a catalytically active portion thereof, where the MTSP portion of the protein consists essentially of the protease domain of the MTSP or a catalytically active portion thereof. Dependent claims further specify polypeptides of claim 1 where the MTSP is selected from MTSP1, MTSP3, MTSP4, MTSP6, corin, enteropeptidase, human airway

trypsin-like protease (HAT), TMPRSS2, and TMPRSS4. Thus, such dependent claims specify only nine polypeptides.

Moreover, additional independent claims are directed to polypeptides from the same sets of sequences, in particular the claims are directed to polypeptides MTSP3 (SEQ ID No. 4, encoded by SEQ ID NO. 3), MTSP4, including MTSP4 protease domain, MTSP4-L and MTSP4-S (SEQ ID NOS. 6, 8 and 10, encoded by SEQ ID Nos. 5, 7 and 9) and MTSP6 (SEQ ID NO. 11, encoded by SEQ ID No. 12). Thus, these sequences represent an overlapping set to the set listed above, with only the subdivision of MTSP4 into MTSP4-L and MTSP4-S. Therefore, there are ten MTSP polypeptides encompassed by the claims.

Further, the nucleotide sequences set forth as SEQ ID Nos. 1, 3, 5, 7, 9, and 11 do not further increase the number of sequences. As noted in MPEP §803.04 nucleotide sequences encoding the same proteins are examined together. Thus, the number of sequences to be examined is not increased by reciting both the nucleotide sequence encoding the MTSP polypeptides and reciting the amino acid sequences of the MTSP polypeptides. Therefore, the claims set forth ten polypeptides, MTSP1, MTSP3, MTSP4-S, MTSP4-L, MTSP6, corin, enteropeptidase, human airway trypsin-like protease (HAT), TMPRSS2, and TMPRSS4. These ten polypeptides are within the reasonable number of sequences set by the Commissioner. Thus, it is respectfully submitted that claims directed to these polypeptides should be examined together and Applicant should not be required to restrict the claims to a single MTSP molecule. Therefore, Applicant respectfully requests that the Restriction Requirement with respect to the restriction to one MTSP protein be withdrawn.

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In view of the provisional election, amendments and remarks herein, examination on the merits is respectfully requested.

Respectfully submitted,

Stephanie L. Seidman
Reg. No. 33,779

Attorney Docket No. 17106-017001/1607
Address all correspondence to:
Stephanie L. Seidman
Fish & Richardson P.C.
12390 El Camino Real
San Diego, California 92130
Telephone: (858) 678-5070
Facsimile: (202) 626-7796
email: seidman@fr.com